

Trend Study 10R-28-99

Study site name: Indian Ridge #2.

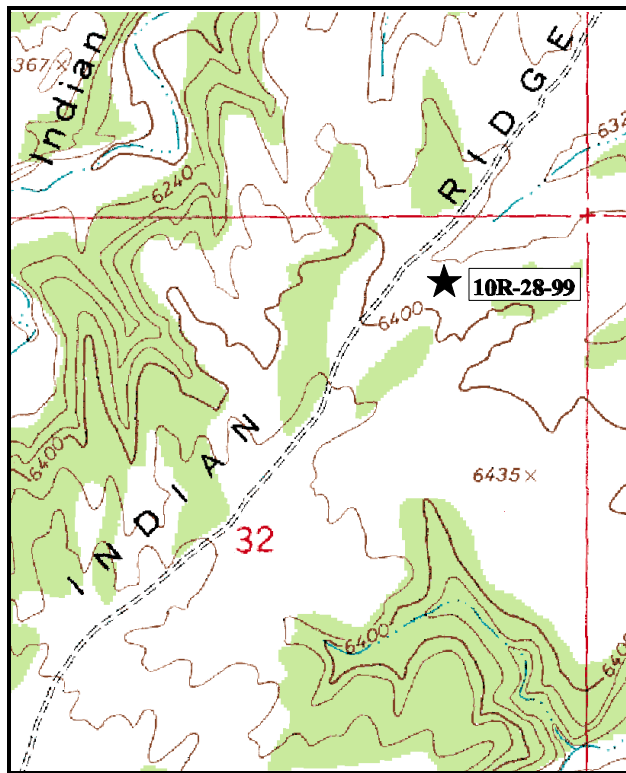
Range type: Salt Desert.

Compass bearing: frequency baseline 31°M.

Footmark (first frame placement) 5 feet, footmarks (frequency belts) line 1(11ft), line 2(34 ft), line 3(59 ft), line 4(71 ft) line 5 (95 ft).

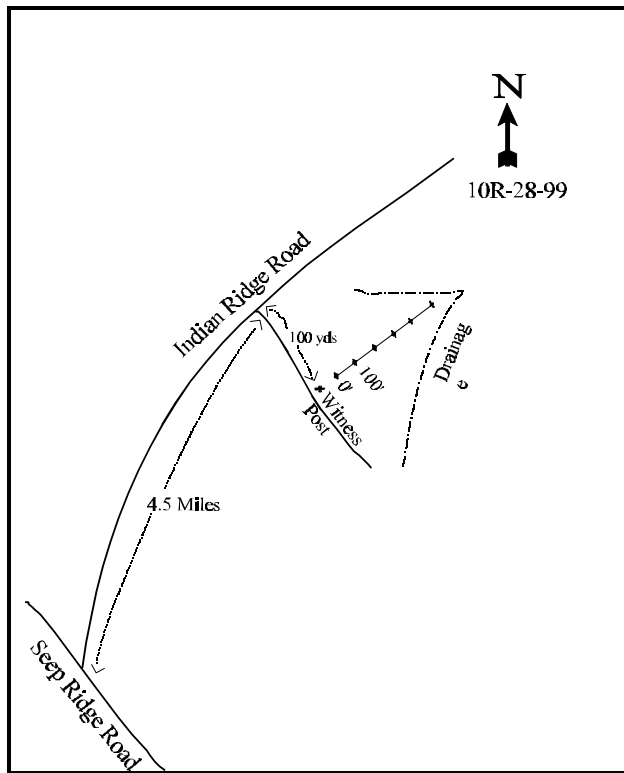
LOCATION DESCRIPTION

From the intersection of Seep Ridge Road and Indian Ridge Road, Follow Indian Ridge Road 4.5 miles to where a road breaks off to the right. Take this road for 100 yards to a witness post on the left side of the road. From the witness post the 0' stake is 6 paces at 31M and is marked with browse tag # 402. Line 2 is only 75' long.



Map name: Cooper Canyon

Township 13 S, Range 23 E, Section 32.



Diagrammatic Sketch

UTM 4389906.581 N, 640677.406 E

DISCUSSION

Trend Study No. 10R-28

The Indian Ridge #2 trend study was established in 1999. It is about two miles northeast of the original Indian Ridge trend study (10-1) which was established in 1986. It samples a salt desert shrub type at an elevation of 6,500 feet. The site is nearly level with a slight north aspect. The area appears to have burned 10 to 20 years ago and is now dominated by cheatgrass. Remnant unburned areas nearby have little herbaceous vegetation and support stands of black sagebrush. Indian Ridge is used by deer and elk in the winter and grazed by cattle in the spring and winter. Pellet group data estimates 13 deer and 11 elk days use/acre (32 ddu/ha and 27 edu/ha). Cattle use was estimated at 74 days use/acre (183 cdu/ha). Cattle pats encountered appear to be mostly from last fall ('98).

Soil at the site is relatively deep but compacted with an estimated effective rooting depth of nearly 17 inches. It is a clay loam with a soil reaction that is slightly alkaline (pH of 7.8). There is very little rock or pavement on the surface or within the soil profile. There is no significant erosion occurring due to the levelness of the site combined with the abundant vegetation and litter cover.

The site supports a variety of preferred browse species including: fourwing saltbush, winterfat, bud sage, and black sagebrush. Fourwing saltbush provides 68% of the shrub cover with an estimated density of 1,240 plants/acre. Mature plants make up 68% of the population. They average nearly three feet in height with a crown diameter of nearly four feet. These shrubs show moderate to heavy use, but have normal vigor and low decadence. The most common shrub is winterfat. It has an estimated density of 10,260 plants/acre which provides 28% of the total browse cover. Ninety percent of the population consist of small mature plants measuring only nine inches in height with a crown of eight inches. Utilization is also judged moderate to heavy with vigor normal on nearly all plants and percent decadence is low at only 1%. The small population of bud sage found on the site shows heavy use. Mature plants average only four inches in height, probably due to continued browsing pressure. The few black sagebrush sampled on the site are also heavily browsed. The only other shrubs sampled on the site include some broom snakeweed and a few prickly pear cactus.

Annual and perennial grasses dominate the site. They provide 77% of the total vegetation cover. The most common grass is cheatgrass which accounts for 70% of the total grass cover. The only common perennial grass is thickspike wheatgrass that grows in large patches. Forbs are rare and produce less than 1% cover. Scarlet globemallow is the most common species.

1999 APPARENT TREND ASSESSMENT

The soil appears to be well protected with no significant erosion occurring at this time. Preferred browse show moderate to heavy use, but appear to have stable age class distributions. The low stature of winterfat and bud sage appear to be due to continual use during the late spring and summer. The herbaceous understory is abundant, however the composition is poor with cheatgrass providing the bulk of the cover (70%).

HERBACEOUS TRENDS --
Herd unit 10R, Study no: 28

T y p e	Species	Nested Frequency '99	Quadrat Frequency '99	Average Cover % '99
G	Agropyron dasystachyum	201	49	10.38
G	Bouteloua gracilis	11	4	.07
G	Bromus tectorum (a)	387	91	24.73
G	Hilaria jamesii	4	1	.03
G	Poa secunda	5	2	.03
G	Sporobolus cryptandrus	21	7	.28
Total for Annual Grasses		387	91	24.73
Total for Perennial Grasses		242	63	10.79
Total for Grasses		629	154	35.52
F	Descurainia pinnata (a)	7	4	.04
F	Lactuca serriola	3	1	.00
F	Sphaeralcea coccinea	55	20	.62
Total for Annual Forbs		7	4	0.04
Total for Perennial Forbs		58	21	0.62
Total for Forbs		65	25	0.67

BROWSE TRENDS --
Herd unit 10R, Study no: 28

T y p e	Species	Strip Frequency '99	Average Cover % '99
B	Artemisia nova	2	.15
B	Artemisia spinescens	13	.07
B	Atriplex canescens	37	6.63
B	Ceratoides lanata	93	2.78
B	Gutierrezia sarothrae	6	.18
B	Opuntia spp.	1	.00
Total for Browse		152	9.82

BASIC COVER --

Herd unit 10R, Study no: 28

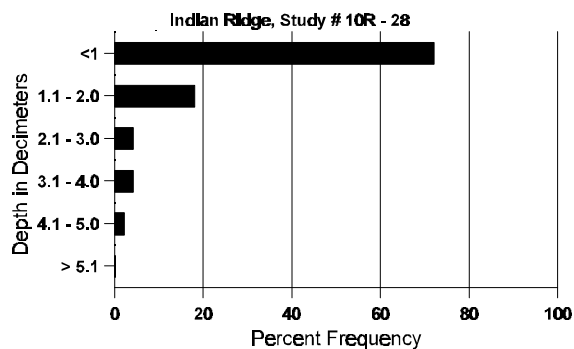
Cover Type	Nested Frequency	Average Cover %
	'99	'99
Vegetation	474	48.66
Rock	14	.03
Pavement	138	1.44
Litter	499	63.68
Cryptogams	6	.01
Bare Ground	231	9.13

SOIL ANALYSIS DATA --

Herd Unit 10R, Study # 28, Study Name: Indian Ridge

Effective rooting depth (inches)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
16.7	72.8 (18.7)	7.9	34.9	26.6	28.6	2.7	12.0	256.0	0.6

Stoniness Index



PELLET GROUP FREQUENCY --

Herd unit 10R, Study no: 28

Type	Quadrat Frequency	Pellet Transect	
		Pellet Groups per Acre	Days Use per Acre (ha)
	'99	'99	'99
Rabbit	4	165	N/A
Elk	13	147	11(27)
Deer	2	174	13(32)
Cattle	9	887	74(183)

BROWSE CHARACTERISTICS --

Herd unit 10R, Study no: 28

Artemisia nova																		
A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total	
		1	2	3	4	5	6	7	8	9	1	2	3	4				
M	99	-	-	1	-	-	1	-	-	-	2	-	-	-	40	14	27	2
X	99	-	-	-	-	-	-	-	-	-	-	-	-	-	40			2
% Plants Showing '99		<u>Moderate Use</u> 00%			<u>Heavy Use</u> 100%			<u>Poor Vigor</u> 00%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)											'99	40	Dec:	-				
Artemisia spinescens																		
M	99	2	7	17	-	-	1	-	-	-	27	-	-	-	540	4	4	27
D	99	1	5	-	-	-	-	-	-	-	-	-	-	6	120			6
X	99	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
% Plants Showing '99		<u>Moderate Use</u> 36%			<u>Heavy Use</u> 55%			<u>Poor Vigor</u> 18%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)											'99	660	Dec:	18%				
Atriplex canescens																		
Y	99	14	1	2	-	-	-	-	-	-	17	-	-	-	340			17
M	99	15	22	5	-	-	-	-	-	-	41	1	-	-	840	31	44	42
D	99	1	2	-	-	-	-	-	-	-	2	-	-	1	60			3
X	99	-	-	-	-	-	-	-	-	-	-	-	-	-	60			3
% Plants Showing '99		<u>Moderate Use</u> 40%			<u>Heavy Use</u> 11%			<u>Poor Vigor</u> 02%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)											'99	1240	Dec:	5%				
Ceratoides lanata																		
Y	99	41	4	2	1	-	-	-	-	-	48	-	-	-	960			48
M	99	175	178	88	10	-	11	-	-	-	461	-	1	-	9240	9	8	462
D	99	1	-	2	-	-	-	-	-	-	1	-	-	2	60			3
X	99	-	-	-	-	-	-	-	-	-	-	-	-	-	40			2
% Plants Showing '99		<u>Moderate Use</u> 35%			<u>Heavy Use</u> 20%			<u>Poor Vigor</u> .58%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)											'99	10260	Dec:	1%				
Gutierrezia sarothrae																		
M	99	23	-	-	-	-	-	-	-	-	17	-	1	-	460	8	10	23
% Plants Showing '99		<u>Moderate Use</u> 00%			<u>Heavy Use</u> 00%			<u>Poor Vigor</u> 04%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)											'99	460	Dec:	-				

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Opuntia spp.																		
M	99	1	-	-	-	-	-	-	-	-	1	-	-	-	20	3	3	1
% Plants Showing '99		<u>Moderate Use</u> 00%			<u>Heavy Use</u> 00%			<u>Poor Vigor</u> 00%			<u>%Change</u>							
Total Plants/Acre (excluding Dead & Seedlings)													'99	20	Dec:	-		